



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Commissioner

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www.IN.gov/idem

Mr. Jay King
Plant Manager
U.S. Gypsum Company
301 Riley Road
East Chicago, IN 46312

Re: **089-16064**
First Significant Source Modification to
Part 70 No.: **T 089-7532-00333**

Dear Mr. King:

U.S. Gypsum Company was issued Part 70 Operating Permit **T 089-7532-00333** on July 6, 1999 for a stationary gypsum wallboard and gypsum products manufacturing plant. An application to modify the source was received on September 10, 2002. Pursuant to 326 IAC 2-7-10.5, the following changes to the stucco production process are approved for construction at the source. New equipment is indicated by **bold**, equipment to be removed from service is indicated by ~~strikeout~~.

A stucco production process, consisting of the following equipment:

- (a) ~~One (1)~~ **Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each** with a maximum capacity of 60 tons, with particulate matter emissions controlled by ~~one (1)~~ **two (2) baghouses, identified as MBH-20 and MBH-21, MBH-8, and exhausting through one (1) stack, identified as M-20 M-8.**
- (b) **One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of thirty (30) tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22.**
- (c) ~~(b)~~ One (1) calcining kettle, **known as calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.**
- (d) **Three (3) natural gas-fired burners for calcining kettle #1, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-21.**
- (e) ~~(e)~~ Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (f) ~~(d)~~ One (1) kettle feed bin, **known as kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-8, and exhausting through one (1) stack, identified as M-8.**

- (g) ~~(e)~~ One (1) calcining kettle, **known as calcining kettle #3**, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (h) ~~(f)~~ One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (i) ~~(g)~~ One (1) hot pit, **known as hot pit #3**, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) ~~(h)~~ **Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw**, ~~A conveying system~~, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the **stucco handling conveyor** system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (k) **Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-23.**
- (l) **Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.**
- (m) ~~(i)~~ One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 Operating Permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact Patrick Brennan, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395, ext. 21, or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

PTB/MES

cc: File - Lake County
U.S. EPA, Region V
Lake County Health Department
Air Compliance Section Inspector - Richard Massoels
Compliance Branch - Karen Nowak
Administrative and Development - Lisa Lawrence
Technical Support and Modeling - Michele Boner



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**NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT**

Preliminary Findings Regarding a Part 70 Permit
Significant Source Modification and
Significant Permit Modification

for the **United States Gypsum Company**
in **Lake County**

Part 70 No.: T 089-7532-00333
Significant Source Modification No.: 089-16064
Significant Permit Modification No.: 089-16805

Notice is hereby given that the above-mentioned company, located at 301 Riley Road, East Chicago, Indiana 46312, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), for a Significant Source Modification and a Significant Permit Modification to a Part 70 Permit issued on July 6, 1999, for an additional calcining kettle and the associated burners and raw material handling equipment in the stucco production process, using baghouse dust collectors for air pollution control.

Notice is hereby given that there will be a period of thirty (30) days from the date of publication of this notice during which any interested person may comment on why this proposed Permit Modification should or should not be issued. Appropriate comments should be related to any air quality issues, interpretation of the state and federal rules, calculations made, technical issues, or the effect that the operation of this source would have on any aggrieved individuals. IDEM, OAQ does not have jurisdiction in specifying and implementing requirements for zoning, odor or noise. For such issues, please contact your local officials.

Copies of the application and draft Source and Permit Modifications are available for examination at the East Chicago Public Library, located at 2401 E. Columbus Drive, East Chicago, Indiana 46901-4600. Copies of the draft Source and Permit Modifications are also available for examination at www.IN.gov/idem/air/permits. All statements, along with supporting documentation, should be submitted in writing to the IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015. If adverse comments concerning the **air pollution impact** of this draft Permit Modification are received, together with a request for a public hearing, such a hearing may be held to give further consideration to this application.

Persons not wishing to comment at this time, but wishing to receive notice of future proceedings conducted related to this action, must submit a written request to the OAQ, at the above address. All interested parties of record will receive a notice of the decision on this matter and will then have fifteen (15) days after receipt of the Notice of Decision to file a petition for administrative review. Procedures for filing such a petition will be enclosed with the Notice.

Questions should be directed to Patrick Brennan, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395, ext. 21, or in Indiana at 1-800-451-6027 (ext. 631-691-3395).

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

PTB/MES

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modifications

Source Background and Description

Source Name:	United States Gypsum Company
Source Location:	301 Riley Road, East Chicago, Indiana 46312
County:	Lake
SIC Code:	3275
Operation Permit No.:	T 089-7532-00333
Operation Permit Issuance Date:	July 6, 1999
Significant Source Modification No.:	089-16064-00333
Significant Permit Modification No.:	089-16805-00333
Permit Reviewer:	Patrick Brennan/MES

The Office of Air Quality (OAQ) has reviewed a modification application from the United States Gypsum Company relating to the construction and modification of the stucco production process. This process is currently permitted in Section D.3 of the Part 70 permit for the source. The modified process consists of the following emission units and pollution control devices. The deleted equipment appears as ~~strikeouts~~, and new equipment is **bolded**.

Section D.3

A stucco production process, consisting of the following equipment:

- (a) ~~One (1)~~ **Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) two (2) baghouses, identified as MBH-20 and MBH-21, MBH-8, and exhausting through one (1) stack, identified as M-20 M-8.**
- (b) **One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of thirty (30) tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22.**
- (c) ~~(b)~~ One (1) calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (d) **Three (3) natural gas-fired burners for calcining kettle #1, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-21.**
- (e) ~~(e)~~ Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (f) ~~(d)~~ One (1) kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter

emissions controlled by one (1) baghouse, identified as MBH-8, and exhausting through one (1) stack, identified as M-8.

- (g) ~~(e)~~ One (1) calcining kettle #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (h) ~~(f)~~ One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (i) ~~(g)~~ One (1) hot pit #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) ~~(h)~~ **Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, A conveying system**, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the conveyor system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (k) **Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-23.**
- (l) **Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.**
- (m) ~~(j)~~ One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

History

On September 10, 2002, U.S. Gypsum Company submitted an application to IDEM, OAQ, requesting to add one (1) additional calcining kettle and associated burners, feed bins and storage facilities to the stucco production process their existing plant. U.S. Gypsum Company was issued a Part 70 permit on July 6, 1999. At the time that the new calcining kettle, known as #1 is constructed, calcining kettle #3 and its associated burners and feed bin will be removed from service and idled.

The source has stated that the idled equipment will remain in place, with the intention that at some point in the future this equipment will be rebuilt and reactivated. At the time that the calcining kettle #3 equipment is rebuilt, the source will make the appropriate application under the IDEM new source review process.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
M-20	Baghouse	55.5	0.5	320	170
M-21	Baghouse	132.5	2.5	6,500	415
M-22	Baghouse	46.5	1.5	10,000	280
M-23	Baghouse	95.5	0.5	3,300	200

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and Significant Permit modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 10, 2002. Additional information was received on October 17, 2002.

Emission Calculations

See pages 1-3 of 3 of Appendix A of this document for detailed emissions calculations.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	5,113
PM ₁₀	5,113
SO ₂	0.039
VOC	0.361
CO	5.52
NO _x	6.57

HAPs	Potential To Emit (tons/year)
Benzene	0.0001
Dichlorobenzene	0.0008
Formaldehyde	0.005
Hexane	0.118
Toluene	0.0002
Lead	0.00003
Cadmium	0.00007
Chromium	0.00009
Manganese	0.00003
Nickel	0.0001
TOTAL	0.124

Justification for Modification

The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) because the potential to emit of PM₁₀ exceeds twenty-five (25) tons per year. The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification (SPM 089-16805-00333) in accordance with 326 IAC 2-7-12(d)(1). The Significant Permit Modification will give the source approval to operate the proposed emission units.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM ₁₀	nonattainment
SO ₂	nonattainment
NO ₂	attainment
Ozone	severe nonattainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Lake County has been designated as nonattainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) The City of East Chicago in Lake County has been classified as nonattainment for PM₁₀. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (c) Lake County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (d) Fugitive Emissions
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	233
PM ₁₀	233
SO ₂	20.6
VOC	96.2
CO	1,202
NO _x	4,807

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more, and it is not one of the 28 listed source categories.

- (b) This existing source is a major stationary source because a nonattainment regulated pollutant is emitted at a rate of one hundred (100) tons per year or more, and it is not one of the 28 listed source categories.
- (c) These emissions are based upon 1999 emissions data submitted to the Office of Air Quality.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM ₁₀ (tons/yr)	SO ₂ (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO _x (tons/yr)
Proposed Modification Baghouses Natural Gas Combustion	5.11 0.125	5.11 0.499	- 0.039	- 0.361	- 5.52	- 6.57
Contemporaneous Increases (From SPM 089-11767)	1.60	4.30	0.319	3.59	57.1	19.3
Total Emissions	6.84	9.91	0.358	3.95	62.6	25.9
Offset Significant Level	25	15	40	40	100	40

- (a) This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.
- (b) The contemporaneous increases were for equipment originally permitted under CP 089-8657-00333, issued on January 8, 1998. The netting calculations from CP 089-8657-00333 were subsequently revised in SPM 089-11767-00333, issued on November 13, 2002, to reflect small changes in the as built configuration of this equipment. The NO_x emissions for the equipment permitted in CP 089-8657-00333 were limited by a throughput limitation on natural gas usage for the several of the natural gas combustion facilities at the source. None of the limited facilities are affected by this proposed modification.

Federal Rule Applicability

- (a) This significant modification does involve a pollutant-specific emissions unit:
 - (1) with the potential to emit before controls equal to or greater than one hundred (100) tons per year, and
 - (2) that is subject to an emission limit and has a control device that is necessary to meet that limit.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are applicable. The source will meet the requirements of this rule through baghouse monitoring which includes once per shift visible emissions monitoring, once per shift parametric monitoring of the pressure drops across the baghouses, and baghouse inspections.

- (b) Calcining kettle #1 is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.730 through 60.737, Subpart UUU (Standards of Performance for Calciners

and Dryers in the Mineral Industries). This rule requires that no emissions shall be discharged into the atmosphere from any affected facility that:

- (1) Contain particulate matter in excess of 0.092 grams per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm for dryers; and
- (2) Exhibit greater than 10 percent opacity, unless emissions are discharged from an affected facility using a wet scrubbing control device.

Because the facility is not equipped with a wet scrubbing control device, calcining kettle #1 shall not emit particulate matter in excess of 0.092 grams per dry standard cubic meter (g/dscm) or exhibit greater than 10 percent opacity.

- (c) Kettle feed bins #1 and #2, as well as all stucco storage and handling equipment are subject to the New Source Performance Standard 326 IAC 12, 40 CFR Part 60.670 through 60.676, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants). This rule requires that:
 - (1) No emissions shall be discharged into the atmosphere from any point on belt conveyors or from any other affected facility stack emissions which:
 - (a) Contain particulate matter in excess of 0.05 grams per dry standard cubic meter (g/dscm), and
 - (b) Exhibit greater than 7 percent opacity, unless emissions are discharged from an affected facility using a wet scrubbing control device, and
 - (2) On and after the sixtieth day after achieving maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, fugitive emissions from any point on belt conveyors or from any other affected facility shall not exceed 10 percent opacity.
- (d) There are still no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.
- (e) The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this source because; (1) the source is not a major source of hazardous air pollutant (HAP) emissions (i.e., the source does not have the potential to emit 10 tons per year or greater of a single HAP or 25 tons per year or greater of a combination of HAPs), and (2) the source does not include one or more units that belong to one or more source categories affected by the Section 112(j) MACT Hammer date of May 15, 2002.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The existing source is a major PSD source. The potential to emit PM and PM₁₀ from this modification, after controls, is less than the PSD significance levels. The net emissions of the remaining criteria pollutants from the proposed modification, after considering the contemporaneous increases from CP 089-8657-00333, issued on January 8, 1998, and the contemporaneous decreases from equipment being removed from service as a result of this modification, are less than

the PSD significance levels.

Therefore, this modification is a minor modification to a major source, and pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

326 IAC 6-1 (Particulate Limitations)

- (a) Because the proposed modification is located in Lake County, 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations) is applicable. Pursuant to 326 IAC 6-1-2 (a), particulate emissions from kettle feed bin #1, calcining kettle #1, the three (3) natural gas-fired burners for calcining kettle #1, and the stucco handling and storage equipment, shall not exceed 0.03 grains per dry standard cubic foot.

The grain loadings submitted by the applicant, shown on page 1 of 3 of Appendix A to this document, verify that these facilities will be in compliance with this rule.

- (b) Because the three (3) natural gas-fired burners for calcining kettle #1 are not fuel combustion steam generators, 326 IAC 6-1-2 (b) is not applicable.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(1), if a limit is established by 326 IAC 6-1, then the limitation contained in 326 IAC 6-3 shall not apply. Therefore, since the kettle feed bin #1, calcining kettle #1, the three (3) natural gas-fired burners for calcining kettle #1, and the stucco handling and storage equipment are subject to the requirements of 326 IAC 6-1-2 (a), the requirements of 326 IAC 6-3-2 are not applicable.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The kettle feed bins, calcining kettle and stucco storage equipment have applicable compliance monitoring conditions as specified below:

- (a) Visible emissions notations of the baghouse stack exhausts M-20, M-22 and M-23 shall be performed once per shift during normal daylight operations when exhausting directly to the atmosphere. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not

counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

- (b) The Permittee shall record the total static pressure drop across the baghouses identified as MBH-20, MBH-21, MBH-22, MBH-23 and MBH-24, controlling the kettle feed bins, calcining kettle and stucco storage equipment at least once per shift when the kettle feed bins, calcining kettle and stucco storage equipment are in operation when venting directly to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across these baghouses shall be maintained within the range of 0.5 to 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.
- (c) An inspection shall be performed within the last month of each calendar quarter of all bags controlling the kettle feed bins, calcining kettle and stucco storage equipment. All defective bags shall be replaced.
- (d) In the event that bag failure has been observed:
 - (1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion.
 - (2) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the baghouses for kettle feed bins, calcining kettle and stucco storage equipment must operate properly to ensure compliance with 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations), 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70).

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

A stucco production process, consisting of the following equipment::

- (a) ~~One (1)~~ **Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each** with a maximum capacity of 60 tons, with particulate matter emissions controlled by ~~one (1)~~ **two (2) baghouses**, identified as **MBH-20 and MBH-21**, ~~MBH-8~~, and exhausting through one (1) stack, identified as ~~M-20 M-8~~.
- (b) **One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of thirty (30) tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22.**
- (c) ~~(b)~~ One (1) calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (d) **Three (3) natural gas-fired burners for calcining kettle #1, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-21.**
- (e) ~~(e)~~ Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (f) ~~(d)~~ One (1) kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-8, and exhausting through one (1) stack, identified as M-8.
- (g) ~~(e)~~ One (1) calcining kettle #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (h) ~~(f)~~ One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (i) ~~(g)~~ One (1) hot pit #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) ~~(h)~~ **Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, A conveying system,** with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the conveyor system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (k) **Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-23.**
- (l) **Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.**
- (m) ~~(j)~~ One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Nonattainment Area Particulate Limitation [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations), the PM emissions from the stucco production process shall be limited as follows:

- (a) PM emissions from kettle feed bins **#1, #2 and #3** exhausting to stacks **M-8 and M-20** shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (b) PM emissions from calcining kettle #1 exhausting to stack M-22 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).**
- ~~(c) (b)~~ PM emissions from calcining kettle #2 exhausting to stack M-16 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- ~~(d) (e)~~ **PM emissions from the natural gas-fired burners for kettle #1 exhausting to stack M-21 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).**
- ~~(e) (e)~~ PM emissions from the natural gas-fired burners for kettle #2 exhausting to stack M-14 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- ~~(f) (d)~~ PM emissions from the natural gas-fired burners for kettle #3 exhausting to stack M-6 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- ~~(g) (e)~~ PM emissions from hot pit #3 exhausting to stack M-1 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- ~~(h) (f)~~ PM emissions from the stucco storage bin exhausting to stack M-2 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (i) PM emissions from the stucco storage bins #1 through #6, exhausting to stack M-23, shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).**

D.3.2 Lake County PM₁₀ Emission Requirements [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1 (Lake County PM₁₀ Emission Requirements), the PM₁₀ emissions shall be limited as follows:

- (a) The PM₁₀ emissions from kettle #3 exhausting to stack M-1 shall not exceed 0.012 grains per dry standard cubic foot and 3.210 pounds per hour.
- (b) The PM₁₀ emissions from stucco storage and conveying exhausting to stack M-2 shall not exceed 0.015 grains per dry standard cubic foot and 2.210 pounds per hour.

D.3.3 Emission Offset Minor PM Limit [326 IAC 2-3]

Pursuant to CP 089-8657-00333, issued on January 8, 1998, the PM emissions shall be limited as follows:

- (a) PM emissions from kettle #2 exhausting to stack M-16 shall not exceed 0.010 grains per dry standard cubic foot.
- (b) PM emissions from kettle feed bins **#1, #2 and #3** exhausting to stacks **M-8 and M-20** shall not exceed 0.008 grains per dry standard cubic foot.

Compliance with these limits make 326 IAC 2-3 (Emission Offset) not applicable. Compliance with these limits also will satisfy the requirements of 326 IAC 6-1-2 (Nonattainment Area Particulate

Limitations) for these facilities.

D.3.4 Emission Offset Minor NO_x Limit [326 IAC 2-3]

Pursuant to CP-089-8657-00333, issued on January 8, 1998, natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2 shall not exceed 338.4 million cubic feet per consecutive twelve (12) month period, including natural gas throughput to the wet and dry end seal natural gas burners, and the gauging water heater, which are found in Section D.4.

Compliance with this limits will assure that the NO_x emissions from the facilities permitted under CP-089-8657-00333, issued on January 8, 1998 shall remain less than twenty-five (25) tons per year and that the requirements of 326 IAC 2-3 are not applicable.

D.3.5 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart UUU]

Pursuant to 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), PM emissions from ~~the kettle #1 exhausting to stack M-22 and~~ kettle #2 exhausting to stack M-16, shall not exceed 0.092 grams per dry standard cubic meter (g/dscm) and ten percent (10%) opacity.

D.3.6 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart OOO]

Pursuant to 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants), PM emissions from kettle feed bins #1 and #2, exhausting through stack M-20, as well as all stucco storage and handling equipment exhausting through stacks M-2 and M-23, shall not exceed 0.05 grams per dry standard cubic meter (g/dscm) and seven percent (7%) opacity.

D.3.7 ~~D.3.6~~ Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.3.8 ~~D.3.7~~ Testing Requirements [326 IAC 2-7-6(1),(6)]

- ~~(a) Pursuant to CP-089-8657-00333, issued on January 8, 1998, the Permittee shall perform compliance testing for PM from kettle #2 exhausting to stack M-16 and kettle feed bins exhausting to stack M-8 within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.~~
- (a) To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.5, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1 exhausting through stack M-22, and calcining kettle #2, exhausting through stack M-16, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.
- (b) To demonstrate compliance with 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants), and Condition D.3.6, the Permittee shall perform compliance testing for PM and opacity from kettle feed bins #1 and #2, exhausting through stack M-20, and the stucco storage and handling equipment exhausting through stacks M-2 and M-23, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.675.

- (c) ~~(b)~~ The Permittee is not required to test the remaining stucco production facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the limits specified in Conditions D.3.1 and D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.9 ~~D.3.8~~ Particulate Matter (PM)

~~Pursuant to OP 45-07-93-0508, issued on December 19, 1989, and CP-089-8657-00333, issued on January 8, 1998,~~ The baghouses for PM control shall be in operation at all times when the associated facilities are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR Part 64]

D.3.10 ~~D.3.9~~ Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts M-1, M-2, M-8, M-16, **M-20, M-22 and M-23** ~~M-8~~ shall be performed once per shift during normal daylight operations when exhausting directly to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.11 ~~D.3.10~~ Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the stucco production process, at least once per shift when the associated facilities are in operation when venting directly to the atmosphere.

- (a) Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouses MBH-1, MBH-2, ~~and MBH-16,~~ **MBH-20, MBH-21, MBH-22, MBH-23 and MBH-24** shall be maintained within the range of 0.5 and 6.0 inches of water, or a range established during the latest stack test.
- (b) Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouse MBH-8 shall be maintained within the range of 2.0 and 8.0 inches of water, or a range established during the latest stack test.

The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.12 ~~D.3.11~~ Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the stucco production process. All defective bags shall be replaced.

D.3.13 ~~D.3.12~~ Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 ~~D.3.13~~ Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain records of natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2.
- (b) To document compliance with Condition **D.3.10 ~~D.3.9~~**, the Permittee shall maintain records of visible emission notations of the stack exhausts M-1, M-2, M-8, M-16, **M-20, M-22 and M-23** ~~M-8~~ once per shift.
- (c) To document compliance with Condition **D.3.11 ~~D.3.10~~**, the Permittee shall maintain the following:
 - (1) Records of the following operational parameters taken once per shift during normal operation when venting directly to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.
 - (2) Documentation of all response steps implemented, per event.
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.

- (8) Documentation of the dates vents are redirected.
- (d) To document compliance with Condition **D.3.12** ~~D.3.14~~, the Permittee shall maintain records of the results of the inspections required under Condition **D.3.12** ~~D.3.14~~.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.15 ~~D.3.14~~ Reporting Requirements

A quarterly summary of the information to document compliance with Condition 3.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Conclusion

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 089-16064-00333 and Significant Permit Modification No. 089-16805-00333.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Significant Source Modification to a Part 70 Operating Permit

Source Name:	United States Gypsum Company
Source Location:	301 Riley Road, East Chicago, Indiana 46312
County:	Lake
SIC Code:	3275
Operation Permit No.:	T 089-7532-00333
Significant Source Modification No.:	089-16064-00333
Permit Reviewer:	Patrick Brennan/MES

On December 26, 2002, the Office of Air Quality (OAQ) had a notice published in the Post Tribune, in Merrillville, Indiana, and in The Times, in Munster, Indiana, stating that United States Gypsum Company had applied for a Significant Source Modification to a Part 70 Operating Permit to construct an additional calcining kettle and the associated burners and raw material handling equipment in the stucco production process, using baghouse dust collectors for air pollution control. The notice also stated that OAQ proposed to issue a Significant Source Modification and provided information on how the public could review the proposed Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Source Modification to a Part 70 Operating Permit should be issued as proposed.

Upon further review, the OAQ has decided to make the following changes to the Significant Source Modification to a Part 70 Operating Permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

Change 1:

Stucco production process items c, f, g, i and j from the Emission Units and Pollution Control Equipment Summary in Section A.2 have been changed as follows:

- (c) One (1) calcining kettle, **known as calcining kettle #2**, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (f) One (1) kettle feed bin, **known as kettle feed bin #3**, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-8, and exhausting through one (1) stack, identified as M-8.
- (g) One (1) calcining kettle, **known as calcining kettle #3**, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (i) One (1) hot pit, **known as hot pit #3**, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the **stucco handling conveyor** system are controlled by one (1) baghouse, identified as MBH-2, and exhausting

through one (1) stack, identified as M-2.

Change 2:

Items c, f, g, i, j and k from the Facility Description in Section D.3 have been changed as follows:

- (c) One (1) calcining kettle, **known as calcining kettle #2**, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (f) One (1) kettle feed bin, **known as kettle feed bin #3**, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-8, and exhausting through one (1) stack, identified as M-8.
- (g) One (1) calcining kettle, **known as calcining kettle #3**, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (i) One (1) hot pit, **known as hot pit #3**, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the **stucco handling conveyor** system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (k) Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as **M-23**.

Change 3:

Item f of Condition D.3.1 has been changed as follows:

D.3.1 Nonattainment Area Particulate Limitation [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations), the PM emissions from the stucco production process shall be limited as follows:

- (f) PM emissions from the natural gas-fired burners for kettle #3 exhausting to stack M-6 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).

Change 4:

Item b of Condition D.3.2 has been changed as follows:

D.3.2 Lake County PM₁₀ Emission Requirements [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1 (Lake County PM₁₀ Emission Requirements), the PM₁₀ emissions shall be limited as follows:

- (b) The PM₁₀ emissions from **the stucco handling system storage and conveying** exhausting to stack M-2 shall not exceed 0.015 grains per dry standard cubic foot and 2.210 pounds per hour.

Change 5:

Condition D.3.4 has been changed as follows:

D.3.4 Emission Offset Minor NO_x Limit [326 IAC 2-3]

Pursuant to CP-089-8657-00333, issued on January 8, 1998, natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2 shall not exceed 338.4 million cubic feet per consecutive twelve (12) month period, including natural gas throughput to the wet and dry end seal natural gas burners, and the gauging water heater, which are found in Section D.4.

Compliance with this limits will assure that the NO_x emissions from the facilities permitted under CP-089-8657-00333, issued on January 8, 1998 shall remain less than twenty-five (25) tons per year and that the requirements of 326 IAC 2-3 (**Emission Offset**) are not applicable.

Change 6:

Condition D.3.15 has been changed as follows:

D.3.15 Reporting Requirements

A quarterly summary of the information to document compliance with Condition 3.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or **an their** equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Appendix A: Emission Calculations
Baghouse Operations**

Page 1 of 3 TSD App A

Company Name: U. S. Gypsum Company
Address City IN Zip: 301 Riley Road, East Chicago, Indiana 46312
SSM: 089-16064
SPM: 089-16085
Plt ID: 089-00333
Reviewer: Patrick Brennan/MES
Date: September 10, 2002

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
Kettle Feed #1 (MBH-20)	99.9%	0.0100	160	13.71	60.1	0.0137	0.060
Kettle Feed #2 (MBH-21)	99.9%	0.0100	160	13.71	60.1	0.0137	0.060
Kettle #1 (MBH-22)	99.9%	0.0100	10000	857.14	3754.3	0.8571	3.754
Stucco Stor 1,2,3 (MBH-24)	99.9%	0.0100	1500	128.57	563.1	0.1286	0.563
Stucco Stor 4,5,6 (MBH-24)	99.9%	0.0100	1800	154.29	675.8	0.1543	0.676
Total				1167.43	5113.34	1.17	5.11

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

Page 2 of 3 TSD App A

**Company Name: U. S. Gypsum Company
Address City IN Zip: 301 Riley Road, East Chicago, Indiana 46312
SSM: 089-16064
SPM: 089-16805
Plt ID: 089-00333
Reviewer: Patrick Brennan/MES
Date: September 10, 2002**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

15.0000

131.40

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.125	0.499	0.0394	6.570	0.361	5.519

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions**

Page 3 of 3 TSD App A

**Company Name: U. S. Gypsum Company
Address City IN Zip: 301 Riley Road, East Chicago, Indiana 46312
SSM: 089-16064
SPM: 089-16805
Plt ID: 089-00333
Reviewer: Patrick Brennan/MES
Date: September 10, 2002**

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.38E-04	7.88E-05	4.93E-03	1.18E-01	2.23E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	3.29E-05	7.23E-05	9.20E-05	2.50E-05	1.38E-04	0.124

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.